

STATE OF TENNESSEE **DEPARTMENT OF HEALTH ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike Knoxville, TN 37921

Lab ID: K00002356

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

K00002356001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY012.1RO

Date/Time Collected: Sampler's Name:

05/07/2009 09:55

County:

Geoff Klein **ROANE - 73**

Sample Matrix:

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC 327.34-20

Billing Code: Send Report To:

TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

Date/Time Received:

05/07/2009 14:40

Received By:

E McCrary

Field Determinations

pH: 7.66

pH Units

uMHO

Chlorine, residual:

Conductivity:

45

16.16

Temperature: **Dissolved Oxygen: 10.18**

Other:

Flow:

CFS

mg/L

TEST: Alkalinity, Total	ME	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	11	mg/L	3.8	10	M Chen	5/12/2009

TEST: Hardness, Calcium	ME:	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	12	mg/L	0.7	1	M Chen	5/12/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/8/2009	

TEST: Residue, Suspended	ME.	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	5/8/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002356002

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 2.1

Project Site No.:

Station No.:

EMORY002.1RO

Date/Time Collected:

05/07/2009 10:52

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009 14:40

Received By:

E McCrary

Field Determinations

pH: 7.27

Chlorine, residual:

Conductivity: 44

Temperature: 15.95

Dissolved Oxygen: 9.80

mg/L

pH Units

uMHO

Other: Flow:

CFS

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	13	mg/L	3.8	10	M Chen	5/12/2009

TEST: Hardness, Calcium	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	14	mg/L	0.7	1	M Chen	5/12/2009

TEST: Residue, Settleable	lue, Settleable METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/8/2009

TEST: Residue, Suspended	ME.	THOD: SM 254				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	11	mg/L	10	10	A Peeples	5/8/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002356003

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

Project Site No.:

2B

Station No.:

EMORY001.9RO

Date/Time Collected:

05/07/2009 11:02

Sampler's Name:

Geoff Klein

County: **Sample Matrix:** ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

327.34-20

Send Report To:

Date/Time Received:

TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

05/07/2009 14:40

Received By:

E McCrary

METHOD: EPA 310.2

Field Determinations

Dissolved Oxygen: 9.93

Chlorine, residual:

Conductivity:

Temperature:

6.97

44

15.54

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Alkalinity, Total MDL MQL UNITS **ANALYZED BY: ANALYTE** RESULT DATE

Total Alkalinity 13 mg/L 3.8 10 M Chen 5/12/2009

TEST: Hardness, Calcium METHOD: SM 3500-Ca D

MDL MQL ANALYZED BY: ANALYTE **RESULT** DATE UNITS Calcium hardness 12 mg/L 0.7 1 M Chen 5/12/2009

TEST: Residue, Settleable METHOD: SM 2540F

ANALYTE MDL MQL ANALYZED BY: RESULT UNITS DATE U ml/L Settleable Residue 0.10 0.10 P Leathers 5/8/2009

TEST: Residue, Suspended METHOD: SM 2540D

ANALYTE RESULT UNITS MDL MQL **ANALYZED BY:** DATE mg/L 10 10 **Total Suspended Solids** 13 A Peeples 5/8/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Page 4 of 9

K00002356004

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 1.7

Project Site No.:

Station No.:

EMORY001.7RO

Date/Time Collected: Sampler's Name:

05/07/2009 11:12

County:

Geoff Klein **ROANE - 73**

Sample Matrix:

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009 14:40

Received By:

E McCrary

Dissolved Oxygen: 10.00	mg/L
Other:	

7.10

44

15.46

Field Determinations

Chlorine, residual:

Conductivity:

Temperature:

Flow:

pH:

CFS

pH Units

uMHO

TEST: Alkalinity, Total	WE.	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	13	mg/L	3.8	10	M Chen	5/12/2009

TEST: Hardness, Calcium	ME.	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	12	mg/L	0.7	1	M Chen	5/12/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/8/2009	

EST: Residue, Suspended METHOD: SM 2540D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	11	mg/L	10	10	A Peeples	5/8/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002356005

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY000.1RO

Date/Time Collected:

05/07/2009 11:21

Sampler's Name:

Geoff Klein

County: **Sample Matrix:** ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009 14:40

Received By:

E McCrary

Field Determinations

pH:

6.99

pH Units

Chlorine, residual:

Conductivity:

44

uMHO

mg/L

Temperature: 15.89

Dissolved Oxygen: 9.89

Other: Flow:

CFS

TEST: Alkalinity, Total METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MQL	DATE		
Total Alkalinity	13	mg/L	3.8	10	M Chen	5/12/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	12	mg/L	0.7	1	M Chen	5/12/2009

TEST: Residue, Settleable	METHOD: SM 2540F				***************************************	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/8/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	RESULT UNITS MDL		MQL	ANALYZED BY:	DATE
Total Suspended Solids	10	mg/L	10	10	A Peeples	5/8/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002356006

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

Project Site No.:

5

Station No.:

Date/Time Collected:

CLINC002.3RO 05/07/2009 11:33

Sampler's Name:

Geoff Klein

County: Sample Matrix: **ROANE - 73**

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

Send Report To:

327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

E McCrary

TEST: Alkalinity, Total	WE.	METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	38	mg/L	3.8	10	M Chen	5/12/2009

Field Determinations

Dissolved Oxygen: 9.63

Chlorine, residual:

Conductivity:

Temperature:

7.19

105

16.75

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D						
ANALYTE	RESULT	MQL	ANALYZED BY:	DATE			
Calcium hardness	34	mg/L	0.7	1	M Chen	5/12/2009	

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MQL	DATE			
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/8/2009	

TEST: Residue, Suspended METHOD: SM 2540D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	20	mg/L	10	10	A Peeples	5/8/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002356007

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Clinch River TVA Discharge Point

Project Site No.:

5A

Station No.:

KingAshOurF2

Date/Time Collected:

Sampler's Name:

05/07/2009 11:42

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

327.34-20

Send Report To: Agency Invoiced: **TDEC-WPC** TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

E McCrary

TEST: Alkalinity, Total	METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	14	mg/L	3.8	10	M Chen	5/12/2009	

Field Determinations

Dissolved Oxygen: 9.56

Chlorine, residual:

Conductivity:

Temperature:

7.16

53

17.81

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	18	mg/L	0.7	1	M Chen	5/12/2009

TEST: Residue, Settleable METHOD: SM 2540F							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/8/2009	

TEST: Residue, Suspended	ME.	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	28	mg/L	10	10	A Peeples	5/8/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002356008

Project Name:

TVA-Ash Spill

pH: Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Field Determinations

Dissolved Oxygen: 9.91

Conductivity:

Temperature:

Other:

Flow:

7.68

235

17.48

pH Units

uMHO

mg/L

CFS

Sample Description: Sampler Project Name: TVA Ash Spill

6

Project Site No.: Station No.:

Date/Time Collected:

CLINC004.5RO

Sampler's Name:

05/07/2009 11:55 Geoff Klein

County:

ROANE - 73

Sample Matrix:

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC

Send Report To:

327.34-20 **TDEC-WPC**

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009 14:40

Received By:

E McCrary

TEST: Alkalinity, Total	WE,	THOD: EPA 310	EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	100	mg/L	3.8	10	M Chen	5/12/2009	

TEST: Hardness, Calcium	ME ⁻	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	80	mg/L	0.7	1	M Chen	5/12/2009

TEST: Residue, Settleable	MET	ГНОD: SM 254	0F			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.10	ml/L	0.10	0.10	P Leathers	5/8/2009

TEST: Residue, Suspended	Suspended METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	28	mg/L	10	10	A Peeples	5/8/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit



STATE OF TENNESSEE DEPARTMENT OF HEALTH **ENVIRONMENTAL LABORATORIES**

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TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

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Knoxville FO

3711 Middlebrook Pike Knoxville, TN 37921

Lab ID: K00002356

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Knalytical Supervisor

K00002356001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

Titoly River fille 12

Project Site No.:

1

Station No.:

EMORY012.1RO

Date/Time Collected:

05/07/2009 09:55

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009 14:40

Received By:

E McCrary

Field Determinations

pH:

7.66

pH Units

uMHO

Chlorine, residual:

Conductivity:

45

. 40

Temperature: 16.16 **Dissolved Oxygen:** 10.18

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/14/2009				S Ufegbu	5/14/2009

TEST: ICP	MET	THOD: EPA 20	0.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	620	µg/L	2.9	10	A Wilson	5/26/2009

TEST: ICP-MS	ME	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	390	μg/L	64.0	100	A Wilson	5/22/2009
Antimony	U	μg/L	0.33	1	A Wilson	5/22/2009
Arsenic	· U	μg/L	0.93	5	A Wilson	5/22/2009
Barium	29	μg/L	2.5	5	A Wilson	5/22/2009
Beryllium	U	μg/L	0.11	1	A Wilson	5/22/2009
Cadmium	U	μg/L	0.41	1	A Wilson	5/22/2009
Chromium	U	μg/L	2.0	5	A Wilson	5/22/2009
Cobalt	0.55J	μg/L	0.04	1	A Wilson	5/22/2009
Copper	2.4	μg/L	0.38	1	A Wilson	5/22/2009
Lead	0.52J	μg/L	0.10	1	A Wilson	5/22/2009
Manganese	47	μg/L	0.42	1	A Wilson	5/22/2009
Nickel	1.7	μg/L	0.25	1	A Wilson	5/22/2009
Selenium	U	μg/L	1.3	5	A Wilson	5/22/2009
Silver	U	μg/L	0.03	0.25	A Wilson	5/22/2009
Thallium	U	μg/L	0.03	1	A Wilson	5/22/2009
Vanadium	U	μg/L	3.4	5	A Wilson	5/22/2009
Zinc	6.4	μg/L	1.9	5	A Wilson	5/22/2009

K00002356001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY012.1RO

Date/Time Collected:

05/07/2009 09:55

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Knoxville

Sampling Agency: Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

TEST: Mercury

E McCrary

METHOD: EPA 245.1

Field Determinations

Dissolved Oxygen: 10.18

Chlorine, residual:

Conductivity:

Temperature:

7.66

45

16.16

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

MDL MQL **ANALYZED BY:** DATE **ANALYTE** RESULT UNITS 0.08J μg/L 0.029 0.2 A Bass 5/12/2009 Mercury

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002356002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.: EMORY002.1RO

Date/Time Collected: Sampler's Name:

05/07/2009 10:52

County:

Geoff Klein ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009 14:40

Received By:

E McCrary

Field Determinations

pH:

7.27

pH Units

Chlorine, residual:

Conductivity:

44

uMHO

Temperature:

15.95 Dissolved Oxygen: 9.80

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/14/2009				S Ufegbu	5/14/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	510	μg/L	2.9	10	A Wilson	5/26/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	640	μg/L	64.0	100	A Wilson	5/22/2009
Antimony	U	μg/L	0.33	1	A Wilson	5/22/2009
Arsenic	1.1J	μg/L	0.93	5	A Wilson	5/22/2009
Barium	36	μg/L	2.5	5	A Wilson	5/22/2009
Beryllium	U	μg/L	0.11	1	A Wilson	5/22/2009
Cadmium	U	μg/L	0.41	1	A Wilson	5/22/2009
Chromium	U	μg/L	2.0	5	A Wilson	5/22/2009
Cobalt	0.59J	μg/L	0.04	1	A Wilson	5/22/2009
Copper	2.0	μg/L	0.38	1	A Wilson	5/22/2009
Lead	0.82J	μg/L	0.10	1	A Wilson	5/22/2009
Manganese	50	μg/L	0.42	1	A Wilson	5/22/2009
Nickel	1.8	μg/L	0.25	1	A Wilson	5/22/2009
Selenium	U	μg/L	1.3	5	A Wilson	5/22/2009
Silver	· U	μg/L	0.03	0.25	A Wilson	5/22/2009
Thallium	0.053J	μg/L	0.03	1	A Wilson	5/22/2009
Vanadium	U	μg/L	3.4	5	A Wilson	5/22/2009
Zinc	4.7J	μg/L	1.9	5	A Wilson	5/22/2009

K00002356002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY002.1RO

Date/Time Collected:

05/07/2009 10:52

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

TEST: Mercury

E McCrary

METHOD:	EPA	245.1

Field Determinations

Dissolved Oxygen: 9.80

Chlorine, residual:

Conductivity:

Temperature:

:Hq

Other: Flow:

7.27

44

15.95

pH Units

uMHO

mg/L

CFS

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	5/12/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002356003

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

Project Site No.:

2B

Station No.:

Date/Time Collected:

EMORY001.9RO

Sampler's Name:

05/07/2009 11:02

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville **TDEC-WPC**

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

E McCrary

Field Determinations

pH:

6.97

44

pH Units

Chlorine, residual: Conductivity:

uMHO

Temperature:

15.54

Dissolved Oxygen: 9.93

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	05/14/2009				S Ufegbu	5/14/2009	

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	470	μg/L	2.9	10	A Wilson	5/26/2009	

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	450	μg/L	6.4	10	A Wilson	5/22/2009
Antimony	U	μg/L	0.33	1	A Wilson	5/22/2009
Arsenic	U	μg/L	0.93	5	A Wilson	5/22/2009
Barium	25	μg/L	2.5	5	A Wilson	5/22/2009
Beryllium	U	μg/L	0.11	1	A Wilson	5/22/2009
Cadmium	U	μg/L	0.41	1	A Wilson	5/22/2009
Chromium	U	μg/L	2.0	5	A Wilson	5/22/2009
Cobalt	0.39J	μg/L	0.04	1	A Wilson	5/22/2009
Copper	1.8	μg/L	0.38	1	A Wilson	5/22/2009
Lead	0.57J	μg/L	0.10	1	A Wilson	5/22/2009
Manganese	35	μg/L	0.42	1	A Wilson	5/22/2009
Nickel	1.3	μg/L	0.25	1	A Wilson	5/22/2009
Selenium	U	μg/L	1.3	5	A Wilson	5/22/2009
Silver	U	μg/L	0.03	0.25	A Wilson	5/22/2009
Thallium	0.033J	μg/L	0.03	.1	A Wilson	5/22/2009
Vanadium	U	μg/L	3.4	5	A Wilson	5/22/2009
Zinc	5.4	μg/L	1.9	5	A Wilson	5/22/2009

K00002356003

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

Project Site No.:

2B

Station No.:

EMORY001.9RO

Date/Time Collected:

11:02 05/07/2009

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

TEST: Mercury

E McCrary

ME	THOD: EPA 245	5.1		
Т	PTIMIL	MDI	MOL	ANALYZED BY:

Field Determinations

Dissolved Oxygen: 9.93

Chlorine, residual: Conductivity:

Temperature:

:Hq

Other:

Flow:

6.97

44

15.54

pH Units

uMHO

mg/L

CFS

ANALYTE	 RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.07J	μg/L	0.029	0.2	A Bass	5/12/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002356004

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 1.7

Project Site No.:

Station No.:

EMORY001.7RO

Date/Time Collected: Sampler's Name:

05/07/2009 11:12

County:

Geoff Klein ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

E McCrary

Field Determinations

pH:

7.10

pH Units

Chlorine, residual:

Conductivity:

44 15.46 uMHO

Temperature: Dissolved Oxygen: 10.00

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	05/14/2009		•		S Ufegbu	5/14/2009	

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	460	μg/L	2.9	10	A Wilson	5/26/2009

TEST: ICP-MS	ME [*]	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	450	μg/L	6.4	10	A Wilson	5/22/2009
Antimony	U	μg/L	0.33	1	A Wilson	5/22/2009
Arsenic	0.94J	μg/L	0.93	5	A Wilson	5/22/2009
Barium	31	μg/L	2.5	5	A Wilson	5/22/2009
Beryllium	U	μg/L	0.11	1	A Wilson	5/22/2009
Cadmium	U	μg/L	0.41	1	A Wilson	5/22/2009
Chromium	U	μg/L	2.0	5	A Wilson	5/22/2009
Cobalt	0.51J	μg/L	0.04	1	A Wilson	5/22/2009
Copper	2.7	μg/L	0.38	1	A Wilson	5/22/2009
Lead	0.77J	μg/L	0.10	1	A Wilson	5/22/2009
Manganese	40	μg/L	0.42	1.	A Wilson	5/22/2009
Nickel	1.7	μg/L	0.25	1	A Wilson	5/22/2009
Selenium	U	μg/L	1.3	5	A Wilson	5/22/2009
Silver	U	μg/L	0.03	0.25	A Wilson	5/22/2009
Thallium	0.038J	μg/L	0.03	1	A Wilson	5/22/2009
Vanadium	4.1J	μg/L	3.4	5	A Wilson	5/22/2009
Zinc	4.9J	μg/L	1.9	5	A Wilson	5/22/2009

K00002356004

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY001.7RO

Date/Time Collected: Sampler's Name:

05/07/2009 11:12 Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: **Agency Invoiced:** TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

TEST: Mercury

E McCrary

METHOD: EPA 245.1

MDL MQL **ANALYZED BY: ANALYTE** RESULT UNITS DATE 0.06J μg/L 0.029 0.2 A Bass 5/12/2009 Mercury

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Field Determinations

7.10 :Ha

Chlorine, residual:

44

pH Units

Conductivity:

uMHO

Temperature: 15.46

Dissolved Oxygen: 10.00

mg/L

Other:

Flow:

K00002356005

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY000.1RO

Date/Time Collected:

05/07/2009 11:21

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009 14:40

Received By:

E McCrary

Field Determinations

pH:

6.99

pH Units

Chlorine, residual:

Conductivity:

44

uMHO

mg/L

Temperature:

15.89 Dissolved Oxygen: 9.89

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/14/2009				S Ufegbu	5/14/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	430	μg/L	2.9	10	A Wilson	5/26/2009

TEST: ICP-MS	ME	THOD: EPA 20	00.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	460	μg/L	64.0	100	A Wilson	5/22/2009
Antimony	0.017	μg/L	0.00561	0.017	A Wilson	5/22/2009
Arsenic	U	μg/L	0.93	5	A Wilson	5/22/2009
Barium	28	μg/L	2.5	5	A Wilson	5/22/2009
Beryllium	U	μg/L	0.11	1	A Wilson	5/22/2009
Cadmium	U	μg/L	0.41	1	A Wilson	5/22/2009
Chromium	U	μg/L	2.0	5	A Wilson	5/22/2009
Cobalt	0.43J	μg/L	0.04	1	A Wilson	5/22/2009
Copper	2.4	μg/L	0.38	1	A Wilson	5/22/2009
Lead	0.62J	μg/L	0.10	1	A Wilson	5/22/2009
Manganese	36	μg/L	0.42	1	A Wilson	5/22/2009
Nickel	1.6	μg/L	0.25	1	A Wilson	5/22/2009
Selenium	U	μg/L	1.3	5	A Wilson	5/22/2009
Silver	U	μg/L	0.03	0.25	A Wilson	5/22/2009
Thallium	0.033J	μg/L	0.03	1	A Wilson	5/22/2009
Vanadium	U	μg/L	3.4	5	A Wilson	5/22/2009
Zinc	5.1	μg/L	1.9	5	A Wilson	5/22/2009

K00002356005

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY000.1RO

Date/Time Collected:

05/07/2009 11:21

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

TEST: Mercury

ANALYTE

Mercury

E McCrary

MET	HOD: EPA 24	5.1			
RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
0.06J	μg/L	0.029	0.2	A Bass	5/12/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Field Determinations

Dissolved Oxygen: 9.89

Chlorine, residual:

Conductivity:

Temperature:

6.99

44

15.89

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

K00002356006

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

CLINC002.3RO

Date/Time Collected:

05/07/2009 11:33

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

E McCrary

Field Determinations

pH:

7.19

pH Units

Chlorine, residual:

Conductivity:

105 16.75 uMHO

Temperature:

Dissolved Oxygen: 9.63

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/14/2009				S Ufegbu	5/14/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Iron	780	μg/L	2.9	10	A Wilson	5/26/2009

TEST: ICP-MS	MET	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	690	μg/L	64.0	100	A Wilson	5/22/2009
Antimony	U	μg/L	0.33	1	A Wilson	5/22/2009
Arsenic	U	μg/L	0.93	5	A Wilson	5/22/2009
Barium	33	μg/L	2.5	5	A Wilson	5/22/2009
Beryllium	U	μg/L	0.11	1	A Wilson	5/22/2009
Cadmium	U	μg/L	0.41	1	A Wilson	5/22/2009
Chromium	U	μg/L	2.0	5	A Wilson	5/22/2009
Cobalt	0.59J	μg/L	0.04	1	A Wilson	5/22/2009
Copper	2.5	μg/L	0.38	1	A Wilson	5/22/2009
Lead	0.89J	μg/L	0.10	1	A Wilson	5/22/2009
Manganese	40	μg/L	0.42	1	A Wilson	5/22/2009
Nickel	1.8	μg/L	0.25	1	A Wilson	5/22/2009
Selenium	U	μg/L	1.3	5	A Wilson	5/22/2009
Silver	U	μg/L	0.03	0.25	A Wilson	5/22/2009
Thallium	0.053J	μg/L	0.03	1	A Wilson	5/22/2009
Vanadium	U	μg/L	3.4	5	A Wilson	5/22/2009
Zinc	3.8J	μg/L	1.9	5	A Wilson	5/22/2009

K00002356006

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

CLINC002.3RO

Date/Time Collected: Sampler's Name:

05/07/2009 11:33 Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Sampling Agency:

Knoxville TDEC-WPC

Billing Code:

327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

TEST: Mercury

E McCrary

METHO	D: EPA	245 1
1415 1110	, D. L. A	24J. I

Field Determinations

Dissolved Oxygen: 9.63

Chlorine, residual:

Conductivity:

Temperature:

7.19

105

16.75

pH Units

uMHO

mg/L

CFS

:Hq

Other:

Flow:

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	_
Mercury	0.06J	μg/L	0.029	0.2	A Bass	5/12/2009	_

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002356007

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA Ash Spill

Project Site No.:

5A

Station No.:

KingAshOurF2

Date/Time Collected:

05/07/2009 11:42

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

E McCrary

Field Determinations

pH:

7.16

pH Units

Chlorine, residual:

Conductivity:

53

uMHO

mg/L

Temperature: **Dissolved Oxygen: 9.56**

17.81

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/14/2009				S Ufegbu	5/14/2009

TEST: ICP	MET	THOD: EPA 20	0.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	960	μg/L	2.9	10	A Wilson	5/26/2009

TEST: ICP-MS	MET	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	1300	µg/L	64.0	100	A Wilson	5/22/2009
Antimony	0.45J	μg/L	0.33	1	A Wilson	5/22/2009
Arsenic	2.8J	μg/L	0.93	5	A Wilson	5/22/2009
Barium	54	μg/L	2.5	5	A Wilson	5/22/2009
Beryllium	0.21J	μg/L	0.11	1	A Wilson	5/22/2009
Cadmium	U	μg/L	0.41	1	A Wilson	5/22/2009
Chromium	2.9J	μg/L	2.0	5	A Wilson	5/22/2009
Cobalt	1.1	μg/L	0.04	1	A Wilson	5/22/2009
Copper	6.5	μg/L	0.38	1	A Wilson	5/22/2009
Lead	2.0	μg/L	0.10	1	A Wilson	5/22/2009
Manganese	46	μg/L	0.42	1	A Wilson	5/22/2009
Nickel	2.7	μg/L	0.25	1	A Wilson	5/22/2009
Selenium	U.	μg/L	1.3	5	A Wilson	5/22/2009
Silver	U	μg/L	0.03	0.25	A Wilson	5/22/2009
Thallium	0.14J	μg/L	0.03	1	A Wilson	5/22/2009
Vanadium	3.6J	μg/L	3.4	5	A Wilson	5/22/2009
Zinc	6.1	μg/L	1.9	5	A Wilson	5/22/2009

K00002356007

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA Ash Spill

Project Site No.:

5A

Station No.:

KingAshOurF2

Date/Time Collected:

05/07/2009 11:42

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

TEST: Mercury

E McCrary

METHOD:	FΡΔ	245 1	
WIL HIOD.	F-1.	4TU. I	

Field Determinations

Dissolved Oxygen: 9.56

Chlorine, residual:

Conductivity:

Temperature:

7.16

53

17.81

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.07J	μg/L	0.029	0.2	A Bass	5/12/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002356008

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Field Determinations

Dissolved Oxygen: 9.91

Conductivity:

Temperature:

7.68

235

17.48

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

Date/Time Collected:

CLINC004.5RO 11:55

Sampler's Name:

05/07/2009 Geoff Klein

County:

ROANE - 73

Sample Matrix:

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

05/07/2009

14:40

Received By:

E McCrary

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/14/2009				S Ufegbu	5/14/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	710	μg/L	2.9	10	A Wilson	5/26/2009

TEST: ICP-MS	METHOD: EPA 200.8					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	- 690	μg/L	64.0	100	A Wilson	5/22/2009
Antimony	U	μg/L	0.33	1	A Wilson	5/22/2009
Arsenic	U	μg/L	0.93	5	A Wilson	5/22/2009
Barium	35	μg/L	2.5	5	A Wilson	5/22/2009
Beryllium	U	μg/L	0.11	1	A Wilson	5/22/2009
Cadmium	U	μg/L	0.41	1	A Wilson	5/22/2009
Chromium	. U	μg/L	2.0	5	A Wilson	5/22/2009
Cobalt	0.58J	μg/L	0.04	1	A Wilson	5/22/2009
Copper	2.7	μg/L	0.38	1	A Wilson	5/22/2009
Lead	0.95J	μg/L	0.10	1	A Wilson	5/22/2009
Manganese	66 °	μg/L	0.42	1	A Wilson	5/22/2009
Nickel	2.2	μg/L	0.25	1	A Wilson	5/22/2009
Selenium	U	μg/L	1.3	5	A Wilson	5/22/2009
Silver	U	μg/L	0.03	0.25	A Wilson	5/22/2009
Thallium	0.047J	μg/L	0.03	1	A Wilson	5/22/2009
Vanadium	4.7J	μg/L	3.4	5	A Wilson	5/22/2009
Zinc	4.6J	μg/L	1.9	5	A Wilson	5/22/2009

K00002356008

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Field Determinations

Dissolved Oxygen: 9.91

Conductivity:

Temperature:

7.68

235

17.48

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

Date/Time Collected:

CLINC004.5RO 05/07/2009 11:55

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC

Date/Time Received:

05/07/2009

14:40

Received By:

E McCrary

TEST: Mercury	METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.10J	μg/L	0.029	0.2	A Bass	5/12/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit